

The Battle of Neighborhoods Project Presentation

Comparative analysis of San Francisco neighborhoods

Problem Statement

- When a young family moves to a new area, a number of factors go into choosing the right neighborhood/town for the family to move to.
- This project assesses the areas in San Francisco city where the family is moving to and tries to identify the neighborhood that meets the family priorities.

Criteria for Neighborhood Selection

- Crime rate
 - Areas with high crime rate are eliminated from the family choice
- Housing cost and availability
 - The family is looking for a 2bedroom house within the budget of 1.5million
- Schools in the vicinity
 - Elementary schools are within the housing and favored venue clusters
- Venues such as parks, ethnic restaurants
 - Family would like park, outdoor public area and a variety of ethnic restaurants in their neighborhood of choice.

Data Sources

- Crime data – Crime data is taken from police incidents reports for 2018 and 2019 from sfgov page. The data grouped by neighborhood and plotted using Folium choropleth feature. Neighborhoods with lowest crime rates are chosen.

<https://data.sfgov.org/Public-Safety/Police-Department-Incident-Reports-2018-to-Present/wg3w-h783>

- Housing data – The current houses for sale are obtained from Redfin site. The data included for the family interest is limited to 2 bedroom houses.

<http://www.redfin.com>.

- Public school listing – The list of public schools with their locations are also available at sfgov page. Only elementary schools are included in the analysis.

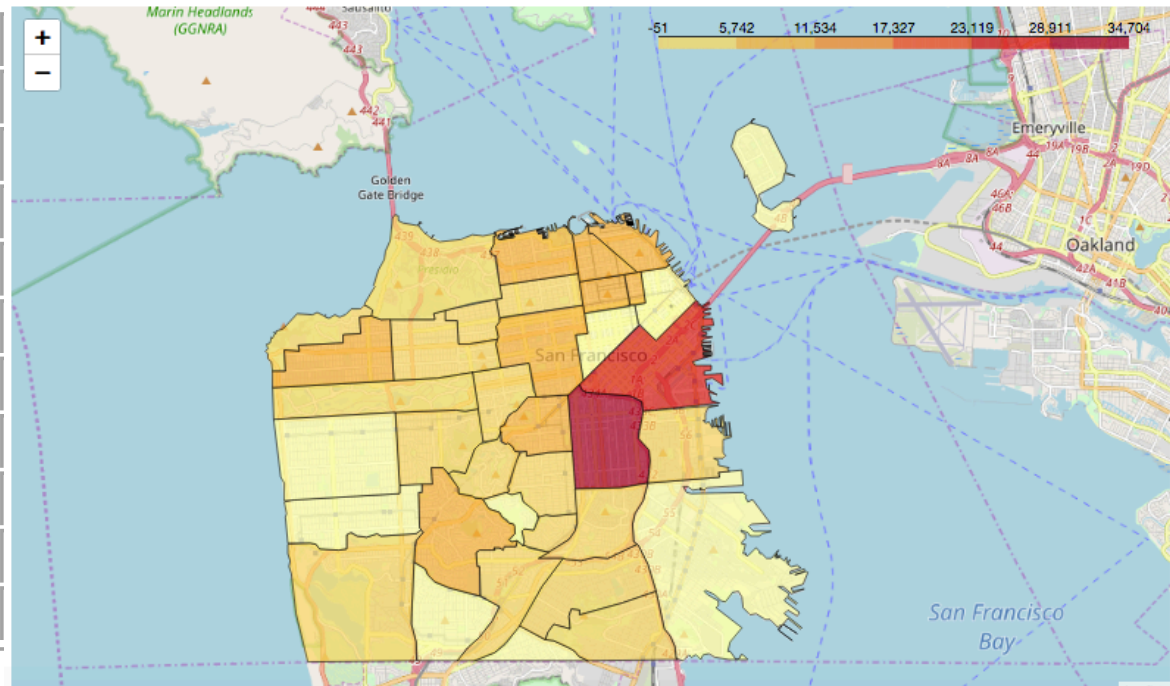
<https://data.sfgov.org/Economy-and-Community/Schools/tpp3-epx2> .

- Venue details and distribution across neighborhoods is sourced from Foursquare API.
- A combination of all the above data is used to narrow and select neighborhood that meets the family's priorities.

Methodology & Results 1

- Crime data is grouped by neighborhood
- Data grouping and sorting is used and visually presented using choropleth feature in Folium
- Neighborhoods with the highest crime rate are excluded from the analysis going forward.

Analysis Neighborhood	Count
Mission	34363
Tenderloin	30893
Financial District/South Beach	28104
South of Market	25972
Bayview Hunters Point	17097
Western Addition	9771
North Beach	9675
Castro/Upper Market	9015
Sunset/Parkside	8680
Nob Hill	8535



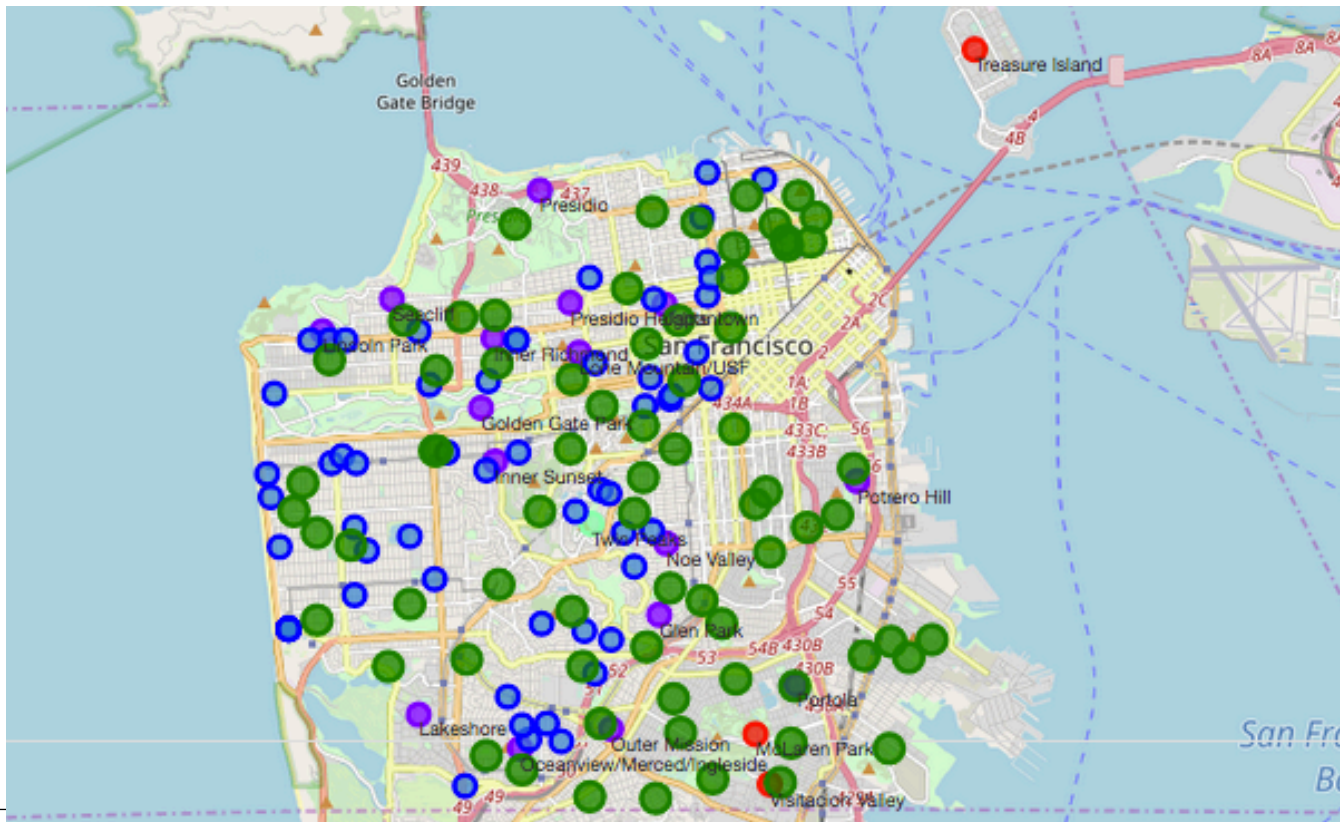
Methodology & Results 2

- Venues details are gathered from FourSquare over the 20 top filtered neighborhoods
- Top 10 venues in each neighborhood is saved as dataframe

	Analysis Neighborhood	Count	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue
17	McLaren Park	290	37.719865	-122.414827	0	Dog Run	Park	Baseball Field	Trail	Yoga Studio	Field	French Restaurant	Fountain
32	Seacliff	330	37.786285	-122.484768	1	Grocery Store	Restaurant	Café	Chinese Restaurant	Coffee Shop	Pizza Place	Sushi Restaurant	Pet Store
14	Lincoln Park	370	37.781395	-122.498410	1	Outdoor Sculpture	Golf Course	Playground	Burmese Restaurant	Martial Arts Dojo	Sandwich Place	Café	Moroccan Restaurant
29	Presidio	730	37.802747	-122.456258	1	Museum	Food Truck	Café	Gym	Sporting Goods Shop	Street Food Gathering	Field	Gift Shop
36	Treasure Island	956	37.824153	-122.372701	0	Park	Island	Bus Station	Flea Market	Grocery Store	Gym	Athletics & Sports	Breakfast Spot
6	Glen Park	1496	37.738044	-122.433462	1	Coffee Shop	Trail	Bakery	Café	French Restaurant	Bubble Tea Shop	Breakfast Spot	Park
37	Twin Peaks	1511	37.751949	-122.446489	2	Scenic Lookout	Trail	Mountain	Yoga Studio	Fast Food Restaurant	Food Truck	Food & Drink Shop	Food
30	Presidio Heights	1714	37.785568	-122.450474	1	Coffee Shop	Café	New American Restaurant	Spa	Cosmetics Shop	American Restaurant	Italian Restaurant	Bed & Breakfast
21	Noe Valley	2725	37.749092	-122.432114	1	Coffee Shop	Bookstore	Bakery	Gift Shop	Gym	Italian Restaurant	Breakfast Spot	Pizza Place
23	Oceanview/Merced /Ingleside	3059	37.717666	-122.460268	1	Playground	Japanese Restaurant	Bus Station	Liquor Store	Chinese Restaurant	Dive Bar	Dog Run	Fountain
7	Golden Gate Park	3257	37.769738	-122.467641	1	Garden	Science Museum	Exhibit	Park	Gift Shop	Food Truck	Lake	Fountain
12	Japantown	3259	37.785463	-122.432440	1	Gift Shop	Bakery	Japanese Restaurant	Tea Room	Café	Grocery Store	Ice Cream Shop	Shopping Mall

Methodology & Results 3

- Based on crime data and desired venue data, the top neighborhoods of choice are - SeaCliff, Lincoln Park, Glen Park, Oceanview, Portola
- Housing (blue circles) & school (green circles) data help further narrow neighborhoods – Glen Park and Portola do not have enough housing availability



Discussion

- The data analyzed gives a good picture of preferred neighborhoods for the family.
- There is scope to further improvement in the analysis. Some improvements are —
 - Categorize the crimes into violent or otherwise and analyze neighborhoods by specific crime type.
 - Extend crime and housing data to include more historic data
 - Further define venue interests of the family
 - Include specific distance criteria for school from housing

Conclusion

- Data available publicly about San Francisco neighborhoods is taken and suitability of them for a family moving in is assessed.
- The crime information gives a very good first indicator of a neighborhood's favorability for the family.
- Combining the other factors of housing, schools and venues nearby, the top 3 neighborhoods of choice for the family are Lincoln Park, Oceanview/Merced/Ingleside and Seacliff.